

#5

SEQUENCE LISTING



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<120> VECTORS FOR EXPRESSING HETEROLOGOUS PEPTIDES AT THE AMINO-TERMINUS OF
POTYVIRUS COAT PROTEIN, METHODS FOR USE THEREOF, PLANTS INFECTED WITH SAME AND
METHODS OF VACCINATION USING SAME

<130> 1686/4

<140> 09/963,761

<141> 2001-09-27

<150> US 60/253,136

<151> 2000-11-28

<160> 33

<170> PatentIn version 3.1

<210> 1

<211> 837

<212> DNA

<213> Zucchini yellow mosaic virus

<400> 1

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acgaaggaca aggatgtgaa tgctggttct catgggaaaa ttgtgccgcg tctttcgaag      180
atcacaaaga aaatgtcatt gccacgcgtg aaaggaaatg tgatactcga tattgatcat      240
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ggagtgtggg ttatgatgga cggaaaatgag caagttgagt atcccttgaa accaatagtt      480
gaaaatgcaa agccaacgct gcggcaaata atgcatcatt tttcagatgc agcggaggga      540
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<212> PRT

<213> Zucchini yellow mosaic virus

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Gly Glu Lys Thr Val Ala Ala Val Thr Lys Asp Lys Asp Val Asn Ala
35 40 45

Gly Ser His Gly Lys Ile Val Pro Arg Leu Ser Lys Ile Thr Lys Lys
50 55 60

Met Ser Leu Pro Arg Val Lys Gly Asn Val Ile Leu Asp Ile Asp His
65 70 75 80

Leu Leu Glu Tyr Lys Pro Asp Gln Ile Glu Leu Tyr Asn Thr Arg Ala
85 90 95

Ser His Gln Gln Phe Ala Ser Trp Phe Asn Gln Val Lys Thr Glu Tyr
100 105 110

Asp Leu Asn Glu Gln Gln Met Gly Val Val Met Asn Gly Phe Met Val
115 120 125

Trp Cys Ile Glu Asn Gly Thr Ser Pro Asp Ile Asn Gly Val Trp Val
130 135 140

Met Met Asp Gly Asn Glu Gln Val Glu Tyr Pro Leu Lys Pro Ile Val
145 150 155 160

Glu Asn Ala Lys Pro Thr Leu Arg Gln Ile Met His His Phe Ser Asp
165 170 175

Ala Ala Glu Ala Tyr Ile Glu Met Arg Asn Ala Glu Ala Pro Tyr Met
180 185 190

Pro Arg Tyr Gly Leu Leu Arg Asn Leu Arg Asp Arg Ser Leu Ala Arg
195 200 205

Tyr Ala Phe Asp Phe Tyr Glu Val Asn Ser Lys Thr Pro Glu Arg Ala
210 215 220

Arg Glu Ala Val Ala Gln Met Lys Ala Ala Ala Leu Ser Asn Val Ser
225 230 235 240

Ser Arg Leu Phe Gly Leu Asp Gly Asn Val Ala Thr Thr Ser Glu Asp
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<210> 3
<211> 20
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<213> Zucchini yellow mosaic virus

<400> 3
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<210> 4
<211> 21
<212> DNA
<213> Artificial

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<223> Nucleotide sequence encoding Hexa-Histidine with a Serine at its
N'

<400> 4
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<210> 5
<211> 7
<212> PRT
<213> Artificial

<220>
<223> Hexa-Histidine (His) peptide fuse to serine (Ser) at its N'

<400> 5

Ser His His His His His His
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<210> 6
<211> 53
<212> DNA
<213> Artificial

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<211> 55
<212> DNA
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<211> 45
<212> DNA
<213> Homo sapiens

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<210> 9
<211> 15
<212> PRT
<213> Homo sapiens

<400> 9
Ser Ala Ser Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Gly Ser
1 5 10 15

<210> 10
<211> 77
<212> DNA
<213> Artificial

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<400> 10
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actcagccaa ctgtggc 77

<210> 11
<211> 82
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cids were deleted

<400> 11
cagctgcagt cagcatcaga gcagaagctc atttcagagg aggatctcgg atccgatact 60
ggagctacaa agaaagataa ag 82

<210> 12
<211> 81
<212> DNA
<213> Artificial

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<223> Nucleotide sequence encoding the peptide derived from a partial H
uman c-Myc-tag fused to the N-terminus of Zucchini Yellow Mosaic
Virus (AGII) coat protein gene of which the N' terminal 13 amino
acids were deleted

<400> 12
cagctgcagt cagcatcaga gcagaagctc atttcagagg aggatctcgg atccaagaaa 60
gataaagaag atgacaaagg g 81

<210> 13
<211> 31
<212> DNA
<213> Artificial

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uman c-Myc-tag fused to the N-terminus of Zucchini Yellow Mosaic
Virus (AGII) coat protein gene of which the N' terminal 18 amino
acids were deleted

<400> 13
cgcgatccg atgacaaagg gaaaaacaag g 31

<210> 14
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Nucleotide sequence encoding the peptide derived from a partial H
uman c-Myc-tag fused to the N-terminus of Zucchini Yellow Mosaic
Virus (AGII) coat protein gene of which the N' terminal 23 amino
acids were deleted

<400> 14
ctcgatcca acaaggatgt tacaggctcc 30

<210> 15
<211> 27
<212> DNA
<213> Artificial

<220>

<223> Nucleotide sequence encoding the peptide derived from a partial H uman c-Myc-tag fused to the N-terminus of Zucchini Yellow Mosaic Virus (AGII) coat protein gene of which the N' terminal 28 amino acids were deleted

<400> 15
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<210> 16
<211> 30
<212> DNA
<213> Artificial

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<223> Nucleotide sequence encoding the peptide derived from a partial H uman c-Myc-tag fused to the N-terminus of Zucchini Yellow Mosaic Virus (AGII) coat protein gene of which the N' terminal 33 amino acids were deleted

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<210> 17
<211> 28
<212> DNA
<213> Artificial

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<210> 18
<211> 33
<212> DNA
<213> Artificial

<220>
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<400> 18
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<210> 19
<211> 30
<212> DNA
<213> Artificial

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uman c-Myc-tag fused to the N-terminus of Zucchini Yellow Mosaic Virus (AGII) coat protein gene of which the N' terminal 48 amino acids were deleted

<400> 19
ctcggatccg gttctcatgg gaaaattgtg 30

<210> 20
<211> 51
<212> DNA
<213> Foot-and-mouth disease virus

<400> 20
agtgtgagag gagatcttca agtgcttgca cgaaaagcag caagaccact t 51

<210> 21
<211> 17
<212> PRT
<213> Foot-and-mouth disease virus

<400> 21
Ser Val Arg Gly Asp Leu Gln Val Leu Ala Arg Lys Ala Ala Arg Pro
1 5 10 15

Leu

<210> 22
<211> 87
<212> DNA
<213> Artificial

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<223> Nucleotide sequence encoding the peptide derived from the Foot and Mouse disease Virus (FMDV) coat protein epitope fused to the N-terminus of Zucchini Yellow Mosaic Virus (AGII) coat protein gene of which the N' terminal 13 amino acids were deleted

<400> 22
cagctgcagt ccgtgagagg agatcttcaa gtgcttgac gaaaagcagc aagaccactt 60
aagaaagata aagaagatga caaaggg 87

<210> 23
<211> 83
<212> DNA
<213> Artificial

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<223> Nucleotide sequence encoding the peptide derived from the Foot and Mouse disease Virus (FMDV) coat protein epitope fused to the N-terminus of Zucchini Yellow Mosaic Virus (AGII) coat protein gene

<400> 23
cagctgcaga gtgtgagagg agatcttcaa gtgcttgac gaaaagcagc aagaccactt 60

tcaggcactc agccaactgt ggc

83

<210> 24
<211> 84
<212> DNA
<213> Artificial

<220>
<223> Nucleotide sequence encoding the peptide derived from a partial Human c-Myc-tag fused to the N-terminus of FMDV coat protein epitope fused to N-terminus of Zucchini Yellow Mosaic Virus (AGII) coat protein gene of which N' terminal 13 aa's were deleted

<400> 24
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aaagataaag aagatgacaa aggg 84

<210> 25
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Nucleotide sequence encoding the Zucchini Yellow Mosaic Virus (ZYMV-AGII) NIa protease motif fused to the N-terminus of ZYMV (AGII) coat protein gene of which the N' terminal 33 amino acids were deleted

<400> 25
cagctgcagt ccgagaaaac agtggcagct gtc 33

<210> 26
<211> 34
<212> DNA
<213> Artificial

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<223> Nucleotide sequence encoding the Zucchini Yellow Mosaic Virus (ZYMV-AGII) NIa protease motif fused to the N-terminus of ZYMV (AGII) coat protein gene of which the N' terminal 8 amino acids were deleted

<400> 26
cagctgcagt ccgacactgg agccacaaag aaag 34

<210> 27
<211> 37
<212> DNA
<213> Artificial

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<223> Nucleotide sequence encoding the Zucchini Yellow Mosaic Virus (ZYMV-AGII) NIa protease motif fused to the N-terminus of ZYMV (AGII) coat protein gene of which the N' terminal 13 amino acids were deleted

<400> 27
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<210> 28
<211> 24
<212> DNA
<213> Gallus gallus

<400> 28
tccattatta atttcgaaaa gttg 24

<210> 29
<211> 8
<212> PRT
<213> Gallus gallus

<400> 29
Ser Ile Ile Asn Phe Glu Lys Leu
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<210> 30
<211> 56
<212> DNA
<213> Artificial

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<210> 31
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Nucleotide sequence encoding the peptide derived from a partial Human c-Myc-tag fused to the N-terminus of Zucchini Yellow Mosaic Virus coat protein gene of which the N' terminal 33 amino acids were deleted

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<210> 32
<211> 22
<212> DNA
<213> Zucchini yellow mosaic virus

<400> 32
agctccatac atagctgaga ca 22

<210> 33
<211> 20
<212> DNA
<213> Zucchini yellow mosaic virus

<400> 33
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